

Flare 8 Root Cause And Corrective Action Analysis Report – NSPS Ja
February 15, 2021 through February 20, 2021

In accordance with Title 40, Part 60, Subpart Ja, provided below is information related to the discharge to the No. 8 Flare in excess of 500 lbs in a 24-hour period in accordance with §60.103a(c) and the recordkeeping and reporting requirements of 40 C.F.R. §60.108a(c)(6). This report also includes information required under the Consent Decree entered in United States, et al. v. HOVENSA, LLC, Civ. No. 1:11-cv-0006.

a. A description of the discharge [40 CFR §60.108a(c)(6)(i)]

On February 15, 2021 at 07:00, there was a spike in flare H₂S concentration (~760 ppm) with a corresponding decrease (~35%) in flare gas flowrate, which suggested that a low- H₂S containing flare source may have been valved off. Because existing H₂S levels prior to the event were already elevated, the decrease in gas flow resulted in an exceedance of the SO₂ limit.

On February 16, 2021 the H₂S in the flare header exceeded its limit causing the release of SO₂ to the atmosphere. Following an investigation on the origins of the high H₂S at the flare header, it was confirmed that four pressure relief valves in the No. 6 Desulfurizer Distillation (6DD) Unit were leaking process gas containing H₂S and other sulfur species to the flare system. The sulfur species were combusted in the flare to create SO₂ which was released to the atmosphere.

b. The date and time the discharge was first identified and the duration of the discharge [40 CFR §60.108a(c)(6)(ii)] & [Consent Decree Paragraph 60.a]

Fresh feed was introduced to 6DD around 23:00 hrs on 2/14/2021. The unit was gradually ramped up to normal operating pressure and temperature. It reached normal operating pressure and temperature around 11:30 hrs on 2/16/2021. At 07:00 hrs on 2/16/2021, the SO₂ release from the flare exceeded 500 lbs/day. After discovery of the leaking pressure relief valves the unit was shut down around 19:30 hrs on 2/19/2021. The SO₂ emissions from the flare came back into compliance by 01:00 hrs on 2/20/2021.

c. The measured or calculated cumulative quantity of gas discharged over the discharge duration. Include measured H₂S, Total sulfur, SO₂, and flow rate as applicable. [40 CFR §60.108a(c)(6)(iii)-(vii)] and calculations used to determine the quantity of SO₂ that was emitted. [Consent Decree Paragraph 60.b]

Appendix 1 to this document includes the data recorded by the data acquisition and handling system related to the continuous monitoring system located at Flare 8. SO₂ emissions are calculated using the total reduced sulfur quantity measured by analyzer in the flare header, the total flow to the flare, and a 99% conversion of total sulfur to SO₂ per 40 CFR §60.108a(c)(6)(vii.)

d. The steps taken to limit the emissions during the discharge and the duration of the discharge. [40 CFR §60.108a(c)(6)(viii)] and [Consent Decree Paragraph 60.c]

Upon discovery of the four faulty pressure relief valves, the 6DD Unit was shut down, and the valves were removed and serviced.

The duration of the event was 114 hours as described in "b" and "c" above.

- e. The root cause analysis and corrective action analysis including an identification of the affected facility, the date and duration of the discharge, a statement noting whether the discharge resulted from the same root cause(s) identified in a previous analysis and either a description of the recommended corrective action(s) or an explanation of why corrective action is not necessary. [40 CFR §60.108a(c)(6)(ix)] and [Consent Decree Paragraph 60.d]

1. *The release occurred from Flare 8, an affected facility under NSPS, Subpart Ja.*
2. *The duration of the event was 114 hours as described in "b" and "c" above.*
3. *The root cause analysis:*

<i>Root Cause Analysis</i>	<i>Corrective Action Analysis (or explanation that no corrective is necessary)</i>	<i>Status: completed within 45 days or schedule with proposed implementation and completion dates</i>
<i>H₂S and other sulfur species were released to Flare 8 from the 6DD caused by faulty pressure relief valves</i>	<i>The 6DD unit was shut down to remove and repair the faulty pressure relief valves.</i>	<i>Completed within 45 days</i>

- f. An analysis of the measures, if any, that are available to reduce the likelihood of a recurrence of the discharge resulting from the same root cause or significant contributing causes in the future. The analysis shall discuss all reasonable alternatives, if any, that are available, the probable effectiveness and cost of the alternatives, and whether an outside consultant should be retained to assist in the analysis. Possible design, operation and maintenance changes shall be evaluated. [Consent Decree Paragraph 60.e]

The following corrective measures to reduce the likelihood of a recurrence were completed within the first 45 days following the discharge:

- *The 6DD unit was shut down to remove and repair the faulty pressure relief valves.*

- g. For Acid Gas Flaring Incidents (not Hydrocarbon Flaring Incidents), specifically identify each of the grounds for stipulated penalties in paragraphs 63, 64 and 65 and describe whether the Incident falls under any of those grounds. [Consent Decree Paragraph 60.f]

This a release of process gases to flare from four leaking pressure relief valves. The process gases are not considered acid gas.

- h. For any corrective action analysis for which corrective actions are required, a description of the corrective action(s) completed within the first 45 days following the discharge and, for action(s) not already completed, a schedule for implementation, including proposed

commencement and completion dates. [40 CFR §60.108a(c)(6)(x)] and [Consent Decree Paragraph 60.h for supplement report]

See response to "e" above.

- i. If the analysis determines that corrective action is not required, the report shall explain the basis for that conclusion. [Consent Decree Paragraph 60.e]

See response to "e" above.

- j. For each discharge from a flare that is the result of a planned startup or shutdown of a refinery process unit or ancillary equipment connected to the flare, a statement that a root cause analysis and corrective action analysis are not necessary because the owner or operator followed the flare management plan. [40 CFR §60.108a(c)(6)(xi)]

Not applicable.

CONFIDENTIAL

CONFIDENTIAL

Appendix 1 - DAHS Records

RSS Daily Flare 8 Report

Plant: LIMETREE BAY REFINERY

Report Period: 02/15/2021 00:00 Through 02/20/2021 23:59

Source Parameter (Unit)		FLARE08							
		H2SPPMD (PPM) 001H	H2SPPMD (PPM) 003H	TRSPPM (PPM) 001H	SO2LBS (LBS) 001H	SO2LBS (LBS) 024H	VG_FLOWT (SCF) 001H	VG_FLOWT (SCF) 024H	PLT4FLWT (SCF) 001H
			162			500		1000000	
02/15/21	00:00	262.1	165.3E	290.8	40.3	369.2	842,619.4	13,444,069.1E	798,920.0
02/15/21	01:00	112.6	166.0E	168.0	22.2	381.8	803,386.0	13,710,610.8E	759,889.8
02/15/21	02:00	121.8	165.5E	199.4	28.2	400.9	860,643.1	14,058,831.2E	821,539.0
02/15/21	03:00	130.4	121.6	215.1	19.7	403.7	557,685.8	14,152,220.1E	523,722.1
02/15/21	04:00	113.4	121.9	222.3	32.5	427.4	886,721.4	14,577,473.1E	845,258.9
02/15/21	05:00	116.4C	120.1	235.6C	31.4	450.4	809,965.0	14,932,551.4E	775,966.0
02/15/21	06:00	209.7C	146.5	297.2C	40.1	478.9	819,933.0	15,214,562.8E	789,436.8
02/15/21	07:00	759.6	361.9E	809.4	69.3	535.2E	520,480.0	15,175,988.6E	495,598.7
02/15/21	08:00	324.3	431.2E	414.6	40.4	557.1E	592,456.2	15,227,332.9E	558,613.1
02/15/21	09:00	112.6	398.8E	251.6	28.4	565.8E	685,362.0	15,386,083.3E	641,262.6
02/15/21	10:00	124.1	187.0E	250.4	27.6	575.9E	669,897.2	15,466,802.3E	629,136.5
02/15/21	11:00	135.6	124.1	241.1	26.4	584.0E	665,551.6	15,560,046.2E	616,138.8
02/15/21	12:00	125.2	128.3	225.0	26.9	594.6E	725,628.4	15,749,125.1E	676,256.6
02/15/21	13:00	115.4	125.4	226.1	26.2	605.6E	704,880.4	15,904,900.7E	661,848.3
02/15/21	14:00	113.3	118.0	273.6	29.0	621.2E	643,736.9	16,011,453.7E	611,333.5
02/15/21	15:00	93.1	107.3	286.9	18.5	626.1E	391,087.6	15,875,975.9E	362,972.9
02/15/21	16:00	130.8	112.4	307.1	33.4	645.5E	659,745.0	15,973,060.5E	613,129.7
02/15/21	17:00	78.9	100.9	241.4	29.2	659.4E	733,696.0	16,087,454.4E	685,134.8
02/15/21	18:00	55.0	88.2	208.8	24.4	667.3E	708,728.7	16,190,327.4E	646,874.6
02/15/21	19:00	34.5	56.1	179.5	26.9	679.6E	910,414.2	16,526,616.3E	861,248.5
02/15/21	20:00	39.2	42.9	187.5	28.1	698.0E	910,399.1	17,066,324.1E	857,807.2
02/15/21	21:00	50.7	41.5	195.9	30.6	716.9E	950,140.2	17,557,010.5E	854,038.8
02/15/21	22:00	39.0	43.0	218.1	33.8	733.6E	941,485.5	17,758,599.4E	881,521.5
02/15/21	23:00	65.7	51.8	249.3	34.5	748.1E	839,972.2	17,834,614.7E	797,182.5
02/16/21	00:00	154.2	86.3	303.8	34.9	742.7E	697,757.3	17,689,752.6E	658,434.5
02/16/21	01:00	47.8	89.2	202.6	27.2	747.6E	814,993.0	17,701,359.6E	774,538.0
02/16/21	02:00	46.8	82.9	197.7	29.6	748.9E	908,347.9	17,749,064.4E	866,328.0

F = Unit Offline

I = Invalid

E = Exceedance

M = Maintenance

C = Calibration

T = Out Of Control

S = Substituted

* = Suspect

U - Startup

D - Shutdown

RSS Daily Flare 8 Report

Plant: LIMETREE BAY REFINERY

Report Period: 02/15/2021 00:00 Through 02/20/2021 23:59

02/16/21	03:00	70.1	54.9	225.1	31.0	760.2E	835,304.2	18,026,682.7E	794,310.5
02/16/21	04:00	116.9	78.0	263.9	33.9	761.6E	779,330.7	17,919,292.0E	740,273.2
02/16/21	05:00	82.6C	89.9	224.3C	34.4	764.6E	931,998.7	18,041,325.7E	888,549.5
02/16/21	06:00	121.5C	107.0	269.4C	39.2	763.6E	883,680.3	18,105,073.0E	834,618.6
02/16/21	07:00	126.9	110.4	277.1	37.6	731.9E	825,425.2	18,410,018.3E	777,317.2
02/16/21	08:00	128.5	125.6	280.7	42.0	733.5E	907,744.6	18,725,306.7E	846,230.3
02/16/21	09:00	139.2	131.6	298.6	43.9	749.0E	893,142.2	18,933,086.9E	830,040.9
02/16/21	10:00	140.2	136.0	306.1	45.4	766.8E	901,774.8	19,164,964.6E	837,352.8
02/16/21	11:00	131.3	136.9	299.9	42.8	783.2E	866,497.2	19,365,910.1E	841,256.3
02/16/21	12:00	201.4	157.7	370.0	51.1	807.4E	839,566.2	19,479,848.0E	809,332.4
02/16/21	13:00	146.6	159.8	310.2	41.2	822.4E	805,825.7	19,580,793.4E	777,786.8
02/16/21	14:00	351.1	233.0E	502.3	64.2	857.6E	776,665.0	19,713,721.5E	725,603.8
02/16/21	15:00	345.9	281.2E	499.1	66.6	905.7E	810,595.5	20,133,229.4E	734,425.3
02/16/21	16:00	269.9	322.3E	409.5	50.2	922.5E	744,285.3	20,217,769.7E	665,602.9
02/16/21	17:00	489.9	368.6E	617.2	67.1	960.5E	660,371.9	20,144,445.7E	612,388.9
02/16/21	18:00	1,035.0	598.3E	1,112.3	94.6	1,030.7E	516,453.3	19,952,170.3E	462,023.4
02/16/21	19:00	938.9	821.3E	1,010.4	76.2	1,080.0E	458,054.9	19,499,811.1E	412,389.2
02/16/21	20:00	1,004.5	992.8E	1,063.0	100.7	1,152.5E	575,346.6	19,164,758.5E	522,119.3
02/16/21	21:00	943.3	962.3E	1,002.4	103.6	1,225.5E	627,570.6	18,842,188.9E	552,987.9
02/16/21	22:00	1,121.1	1,023.0E	1,181.2	173.0	1,364.7E	889,819.2	18,790,522.6E	793,330.5
02/16/21	23:00	752.2	938.9E	832.9	95.4	1,425.6E	695,892.6	18,646,443.0E	606,345.4
02/17/21	00:00	627.8	833.7E	700.0	78.7	1,469.4E	683,022.8	18,631,708.5E	548,198.7
02/17/21	01:00	871.7	750.6E	937.8	98.9	1,541.1E	640,525.2	18,457,240.8E	576,895.5
02/17/21	02:00	746.4	748.7E	823.8	89.1	1,600.6E	656,658.8	18,205,551.7E	596,580.4
02/17/21	03:00	913.2	843.8E	996.3	107.5	1,677.2E	655,236.9	18,025,484.5E	620,240.9
02/17/21	04:00	665.7	775.1E	764.7	82.1	1,725.4E	652,042.6	17,898,196.4E	608,768.0
02/17/21	05:00	871.0C	816.6E	956.8C	110.0	1,801.0E	698,320.9	17,664,518.6E	588,953.5
02/17/21	06:00	1,550.9C	1,029.2E	1,618.1C	142.8	1,904.6E	536,125.4	17,316,963.7E	524,225.2
02/17/21	07:00	1,729.1	1,383.7E	1,746.5	94.8	1,961.8E	329,823.7	16,821,362.2E	325,582.5
02/17/21	08:00	2,093.7	1,791.2E	2,076.6	69.3	1,989.1E	202,629.3	16,116,246.9E	196,940.6
02/17/21	09:00	2,213.2	2,012.0E	2,185.4	90.6	2,035.7E	251,752.5	15,474,857.1E	244,416.4

F = Unit Offline

I = Invalid

E = Exceedance

M = Maintenance

C = Calibration

T = Out Of Control

S = Substituted

* = Suspect

U - Startup

D - Shutdown

RSS Daily Flare 8 Report

Plant: LIMETREE BAY REFINERY

Report Period: 02/15/2021 00:00 Through 02/20/2021 23:59

02/17/21	10:00	1,611.7	1,972.9E	1,612.6	75.5	2,065.8E	284,264.7	14,857,347.0E	274,944.7
02/17/21	11:00	1,410.5	1,745.1E	1,430.7	78.2	2,101.2E	331,998.4	14,322,848.2E	325,408.9
02/17/21	12:00	1,220.9	1,414.4E	1,257.2	67.9	2,117.9E	327,896.9	13,811,178.8E	319,954.6
02/17/21	13:00	976.8	1,202.7E	1,028.9	50.8	2,127.5E	299,920.7	13,305,273.8E	291,466.8
02/17/21	14:00	845.7	1,014.5E	888.1	35.8	2,099.2E	245,092.3	12,773,701.1E	239,158.7
02/17/21	15:00	502.7	775.1E	605.7	44.3	2,076.8E	444,030.6	12,407,136.2E	430,032.3
02/17/21	16:00	417.6	588.7E	540.7	42.7	2,069.3E	479,305.2	12,142,156.0E	461,862.5
02/17/21	17:00	439.0	453.1E	555.5	38.3	2,040.5E	418,359.6	11,900,143.7E	402,162.2
02/17/21	18:00	587.2	481.3E	692.3	51.1	1,997.0E	448,388.4	11,832,078.9E	419,399.3
02/17/21	19:00	674.1	566.8E	780.7	60.1	1,981.0E	467,989.5	11,842,013.5E	441,317.2
02/17/21	20:00	543.0	601.5E	659.5	55.0	1,935.3E	506,762.4	11,773,429.2E	480,903.7
02/17/21	21:00	579.3	598.8E	699.2	59.1	1,890.9E	513,682.5	11,659,541.1E	486,540.7
02/17/21	22:00	579.0	567.1E	703.9	57.7	1,775.5E	497,663.0	11,267,384.8E	470,065.1
02/17/21	23:00	612.3	590.2E	739.0	56.6	1,736.6E	464,922.4	11,036,414.7E	435,008.1
02/18/21	00:00	688.9	626.7E	799.6	54.2	1,712.1E	411,520.1	10,764,911.9E	379,183.2
02/18/21	01:00	767.9	689.7E	870.5	69.3	1,682.5E	483,401.1	10,607,787.8E	445,931.4
02/18/21	02:00	526.2	661.0E	648.8	49.5	1,642.9E	463,110.5	10,414,239.5E	435,397.7
02/18/21	03:00	646.4	646.8E	767.3	57.1	1,592.5E	451,857.6	10,210,860.2E	430,590.5
02/18/21	04:00	663.6	612.1E	782.1	60.0	1,570.4E	466,047.9	10,024,865.5E	440,291.5
02/18/21	05:00	690.6C	666.9E	810.8C	62.6	1,523.0E	468,759.0	9,795,303.6E	446,253.2
02/18/21	06:00	840.5C	731.6E	954.4C	72.6	1,452.8E	461,831.9	9,721,010.1E	439,573.6
02/18/21	07:00	570.7	700.6E	694.0	53.2	1,411.2E	466,042.3	9,857,228.7E	447,781.0
02/18/21	08:00	726.3	712.5E	849.0	66.6	1,408.5E	476,502.1	10,131,101.5E	445,860.3
02/18/21	09:00	801.2	699.4E	929.5	70.9	1,388.8E	463,212.0	10,342,561.0E	438,675.1
02/18/21	10:00	879.2	802.2E	1,004.3	77.4	1,390.7E	468,001.7	10,526,298.0E	443,454.7
02/18/21	11:00	968.5	883.0E	1,103.4	82.2	1,394.7E	452,372.5	10,646,672.2E	431,806.2
02/18/21	12:00	815.5	887.7E	940.2	68.8	1,395.6E	444,359.6	10,763,134.9E	418,580.4
02/18/21	13:00	766.1	850.0E	891.3	69.1	1,414.0E	471,277.7	10,934,491.8E	445,328.3
02/18/21	14:00	774.6	785.4E	900.4	69.8	1,447.9E	470,928.9	11,160,328.4E	445,621.7
02/18/21	15:00	647.0	729.2E	779.7	60.9	1,464.5E	474,237.0	11,190,534.9E	448,061.8
02/18/21	16:00	544.0	655.2E	682.0	53.5	1,475.3E	476,215.7	11,187,445.4E	450,960.4

F = Unit Offline

I = Invalid

E = Exceedance

M = Maintenance

C = Calibration

T = Out Of Control

S = Substituted

* = Suspect

U - Startup

D - Shutdown

RSS Daily Flare 8 Report

Plant: LIMETREE BAY REFINERY

Report Period: 02/15/2021 00:00 Through 02/20/2021 23:59

02/18/21	17:00	433.2	541.4E	579.4	35.9	1,473.0E	376,839.6	11,145,925.3E	361,090.1
02/18/21	18:00	334.9	437.4E	476.8	46.9	1,468.9E	598,072.4	11,295,609.3E	575,528.1
02/18/21	19:00	327.7	365.3E	468.5	44.4	1,453.1E	575,100.2	11,402,720.0E	545,855.3
02/18/21	20:00	431.3	364.7E	576.6	49.6	1,447.7E	522,594.6	11,418,552.2E	507,031.4
02/18/21	21:00	616.0	458.4E	744.6	63.0	1,451.5E	513,672.2	11,418,541.9E	499,457.9
02/18/21	22:00	708.4	585.3E	831.5	74.5	1,468.3E	544,389.5	11,465,268.4E	530,942.7
02/18/21	23:00	500.7	608.4E	633.7	56.2	1,467.9E	538,240.6	11,538,586.6E	525,914.1
02/19/21	00:00	174.1	461.1E	318.7	28.0	1,441.7E	533,652.8	11,660,719.3E	522,109.7
02/19/21	01:00	295.2	323.3E	438.0	37.5	1,410.0E	520,283.2	11,697,601.4E	508,093.7
02/19/21	02:00	322.5	263.9E	468.8	37.7	1,398.2E	487,917.2	11,722,408.1E	477,458.8
02/19/21	03:00	297.1	304.9E	440.2	33.8	1,374.9E	466,907.4	11,737,457.9E	447,108.5
02/19/21	04:00	277.4	299.0E	426.7	33.3	1,348.2E	474,061.8	11,745,471.7E	428,318.1
02/19/21	05:00	235.1C	269.9E	381.5C	26.9	1,312.6E	428,293.0	11,705,005.8E	416,157.3
02/19/21	06:00	136.1C	216.2E	282.5C	19.4	1,259.4E	417,938.6	11,661,112.5E	406,026.5
02/19/21	07:00	109.7	160.3	256.0	17.4	1,223.6E	413,954.2	11,609,024.4E	400,529.7
02/19/21	08:00	114.0	119.9	265.9	18.1	1,175.1E	412,963.3	11,545,485.7E	396,489.7
02/19/21	09:00	120.6	114.8	279.9	18.7	1,123.0E	406,488.8	11,488,762.5E	390,696.5
02/19/21	10:00	149.9	128.2	316.1	21.7	1,067.3E	417,077.0	11,437,837.8E	399,454.3
02/19/21	11:00	90.3	120.3	262.6	17.7	1,002.9E	409,860.4	11,395,325.6E	393,720.3
02/19/21	12:00	71.3	103.8	245.6	16.2	950.3E	401,850.9	11,352,817.0E	389,386.8
02/19/21	13:00	91.2	84.3	261.0	17.3	898.4E	401,647.6	11,283,186.9E	388,862.2
02/19/21	14:00	138.9	100.5	299.4	20.3	848.9E	411,962.7	11,224,220.7E	397,659.4
02/19/21	15:00	127.3	119.1	283.6	19.6	807.7E	420,005.8	11,169,989.5E	405,987.1
02/19/21	16:00	120.9	129.0	276.3	19.2	773.4E	421,644.6	11,115,418.4E	408,235.3
02/19/21	17:00	124.8	124.3	278.0	19.1	756.6E	417,991.9	11,156,570.8E	404,316.5
02/19/21	18:00	115.5	120.4	261.1	18.2	727.8E	422,881.7	10,981,380.0E	408,587.5
02/19/21	19:00	116.8	119.0	263.1	18.0	701.4E	415,308.1	10,821,588.0E	406,686.4
02/19/21	20:00	84.4	105.6	236.3	15.8	667.7E	406,980.7	10,705,974.0E	404,100.5
02/19/21	21:00	62.1	87.8	214.7	13.4	618.1E	379,465.0	10,571,766.9E	376,571.2
02/19/21	22:00	61.6	69.3	201.2	13.9	557.5E	420,479.3	10,447,856.7E	389,048.9
02/19/21	23:00	53.2	58.9	201.4	13.7	515.1E	413,992.8	10,323,609.0E	397,136.1

F = Unit Offline

I = Invalid

E = Exceedance

M = Maintenance

C = Calibration

T = Out Of Control

S = Substituted

* = Suspect

U - Startup

D - Shutdown

RSS Daily Flare 8 Report

Plant: LIMETREE BAY REFINERY

Report Period: 02/15/2021 00:00 Through 02/20/2021 23:59

02/20/21	00:00	63.0	59.3	224.2	17.8	504.9E	483,527.8	10,273,483.9E	404,154.0
02/20/21	01:00	48.5	54.9	195.8	19.3	486.7	598,603.1	10,351,803.8E	579,036.3
02/20/21	02:00	27.3	46.3	164.6	19.2	468.2	707,654.4*	10,571,541.0E	722,853.0
02/20/21	03:00	47.4	41.0	192.2	24.3	458.7	766,838.6	10,871,472.2E	721,901.2
02/20/21	04:00	50.4	41.7	195.9	24.0	449.4	743,927.1	11,141,337.5E	708,677.0
02/20/21	05:00	31.7C	43.2	182.5C	21.1	443.5	701,861.7	11,414,906.2E	697,652.5
02/20/21	06:00	42.8C	41.7	194.0C	22.3	446.4	699,186.1	11,696,153.6E	697,947.3
02/20/21	07:00	36.8	37.1	192.1	22.1	451.0	697,640.6	11,979,840.0E	693,245.9
02/20/21	08:00	33.3	37.7	203.5	21.7	454.7	647,574.5	12,214,451.1E	641,049.4
02/20/21	09:00	30.0	33.4	201.2	20.5	456.4	618,194.3	12,426,156.6E	616,900.9
02/20/21	10:00	24.6	29.3	195.3	20.0	454.7	623,081.8*	12,632,161.4E	632,080.2
02/20/21	11:00	38.2	30.9	214.3	21.7	458.7	614,654.1*	12,836,955.1E	619,001.4
02/20/21	12:00	34.9	32.6	212.9	21.6	464.1	615,903.7*	13,051,007.9E	615,979.8
02/20/21	13:00	35.6	36.2	208.6	21.4	468.2	623,720.2	13,273,080.5E	621,355.0
02/20/21	14:00	33.7	34.7	201.9	21.1	469.0	634,367.1	13,495,484.9E	630,202.9
02/20/21	15:00	24.0	31.1	195.4	20.0	469.4	621,311.2*	13,696,790.3E	626,246.7
02/20/21	16:00	23.7	27.2	193.8	20.2	470.4	631,725.9*	13,906,871.5E	636,628.5
02/20/21	17:00	27.4	25.1	195.0	20.3	471.5	632,764.6*	14,121,644.2E	641,280.8
02/20/21	18:00	28.8	26.7	192.0	19.5	472.8	616,063.3*	14,314,825.9E	629,270.7
02/20/21	19:00	84.9	47.1	238.2	24.2	479.1	618,118.8*	14,517,636.5E	625,882.1
02/20/21	20:00	95.0	69.6	233.3	24.7	488.0	643,786.9	14,754,442.8E	633,764.7
02/20/21	21:00	35.7	71.9	181.5	19.3	493.8	644,619.8*	15,019,597.5E	657,690.5
02/20/21	22:00	32.4	54.4	179.4	19.4	499.3	657,300.6*	15,256,418.8E	671,620.8
02/20/21	23:00	36.3	34.8	185.2	19.8	505.3E	647,893.2*	15,490,319.3E	662,495.3

F = Unit Offline

I = Invalid

E = Exceedance

M = Maintenance

C = Calibration

T = Out Of Control

S = Substituted

* = Suspect

U - Startup

D - Shutdown